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COMMENTARY

Comments on "Lymph Node Ratio as a Risk Factor for Locoregional Recurrence in Breast Cancer Patients"

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To the Editor,

We read the paper by Kim et al. [1], which appeared in the latest issue of this journal, with great interest. The study investigated the association between lymph node ratio (LNR) and locoregional control (LRC) in 234 breast cancer patients with ≥10 involved axillary lymph nodes who underwent multimodality treatment. In our opinion, the paper by Kim et al. [1] raises some interesting and relevant points that we have already addressed in our previous paper [2].

While some methodological aspects are similar, others are different. In particular, in their study, Kim et al. [1] reviewed the medical records of all breast cancer patients with ≥10 involved nodes, and all patients received multimodality treatment with radical surgery (n=169) or breast conserving surgery (BCS; n=65) with axillary lymph node dissection, adjuvant chemotherapy, and radiotherapy. The cutoff value of LNR was set at 0.7.

On the other hand, in our study, 195 women with pT1-2 pN2-3 breast cancer treated by BCS with axillary lymph node dissection (levels I-II and/or III) followed by whole breast and nodal irradiation (excluding internal mammary nodes), chemotherapy, and/or hormonal therapy were included [3,4]. Patients with ectopic breast cancers were excluded [5]. Additionally, a categorization of breast cancer subtype on the basis of estrogen receptor (ER), progesterone receptor (PR), human epidermal growth factor receptor 2 (HER2), and Ki-67 status was used: (1) luminal A (ER-positive or PR-positive, HER2-negative, and Ki-67-low); (2) luminal B (ER-positive or PR-negative, HER2-negative, and Ki-67-high); (3) HER2-positive or non-luminal (ER-negative, PR-negative, and HER2 overexpression or amplified); and basal-like or triple-negative (ER-negative, PR-negative, and HER2-negative). We set a cutoff value of LNR at 0.65.

In the study of Kim et al. [1], locoregional recurrence (LRR) was observed in 30 patients (12.8%) and the 5-year LRC rate was 88.8%. LNR ≥0.7 and pathologic state (T3–T4) were noted to have an association with LRC with borderline significance ($p=0.06$ and $p=0.07$, respectively). Age, menopausal status, nuclear grade, resection margins, molecular subtype, and the use of taxane chemotherapy were found to not be significantly associated with LRC. Interestingly, in the multivariate analysis, LNR ≥0.7 was identified as the only independent factor for LRC. On the contrary, in our series [2], even though the 5-year LRC rate was similar to that reported in the study of Kim et al. [1], older age was significantly associated with a shorter overall survival ($p=0.027$) and a Ki-67 value of ≥50% was significantly associated with time to recurrence ($p=0.049$); moreover, both HER2 (3+) overexpression and pN3 status were associated with a shorter overall survival with borderline significance ($p=0.062$ and $p=0.067$, respectively). Similar to the study of Kim et al. [1], in our series NR >0.65 showed a significant association with a shorter overall survival ($p=0.033$) [2].

In conclusion, Kim et al. [1] suggested that an aggressive multimodal treatment approach permitted a favorable locoregional outcome in patients with ≥10 involved axillary lymph nodes; however, patients with a high LNR ≥0.7 had an increased risk for LRR, including those who received local treatment. Similarly, we have demonstrated that the LNR value in patients with more than three positive axillary nodes undergoing BCS and regional irradiation may represent an impor-

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tant prognostic factor. In the future, to improve regional control using irradiation, implementation of new radiosensitizing agents could reduce the rate of LRR, prolong disease-free survival, and perhaps even improve overall survival rates [6,7]. Finally, we believe that the predictive role of LNR should be emphasized, and consequently, LNR should be extensively utilized in the management of patients with breast cancer.

CONFLICT OF INTEREST

The authors declare that they have no competing interests.

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